REMARKS/ARGUMENTS

Claim 12 is new.

Amended Claims 1 - 7 are supported, for example, respectively, at original Claims 1-7. New Claim 12 is supported, for example, at original Claim 1.

No new matter is added.

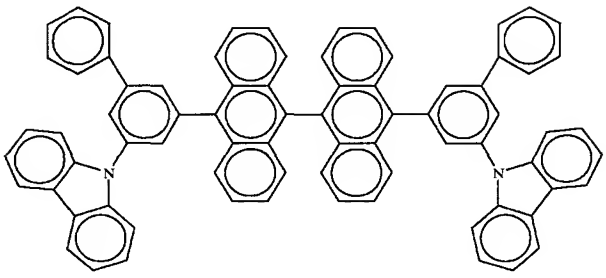
1. The objection to Claim 4 (Office Action page 2) is mooted by amendment of Claim 4 to remove the word "independently."

2. The indefiniteness rejection of Claims 1-11 (Office Action page 2) is traversed.

Claim 1 is amended to replace the phrase "Ar_1 to Ar_4 each represent a benzene residue" with the phrase "Ar_1 to Ar_4 each represent a p-phenylene or m-phenylene." Further, towards the end of Claim 1, Claim 1 is amended to remove the phrase "when at least one of Ar_1 to Ar_4 represents m-phenylene or o-phenylene." Applicants submit these amendments render Claim 1 definite. Withdrawal of the indefiniteness rejection of Claims 1-11 is requested.

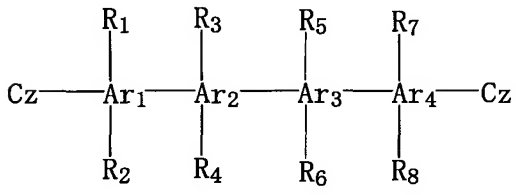
3. The anticipation rejection of Claims 1, 3-8, 10 and 11 as being anticipated by Hosokawa (Office Action page 3) is traversed. The Office asserts that Hosokawa discloses compound E14 – E16 and that these compounds anticipate present Claim 1 (see page 3, ¶ 5, of the Official Action). Representative Compound E14 of Hosokawa is reproduced below:

E14



Applicants note the phrase "when each of R_1 to R_8 bond to its adjacent carbon atom, each of R_1 to R_8 and its adjacent carbon atom may bond to each other to form a saturated or unsaturated cyclic structure" is not contained in (e.g., has been amended out of) present Claim 1. Put differently, Applicants submit that in present Claim 1, in the compound of formula (1), "R_1-R_8 do not bond to adjacent carbon atoms to form cyclic structures," as found, for example, in the anthracene rings of Compound E14 of Hosokawa. Accordingly, Hosokawa, including specific compounds E14-16, does not describe or suggest a compound of formula (1) of Claim 1, and cannot therefore anticipate or render obvious present Claim 1 and the claims depending therefrom. Withdrawal of the anticipation rejection is requested.

4. The obviousness rejection of Claims 1-2 and 5-9 as being unpatentable in view of Taguchi (Office Action page 5) is traversed. The Office, at page 5 of the Official Action, relies upon compounds HT-15 and HT-16 of Taguchi as the basis of the obviousness rejection. Taguchi's compounds HT-15 and HT-16, when transposed onto the compound of formula (1) of present Claim 1, as characterized by the Office, have "Ar_2 and Ar_3 as ortho-substituted phenylenes" (see Office Action page 5, ¶ 8). In the compound of formula (1) of present Claim 1, reproduced below,



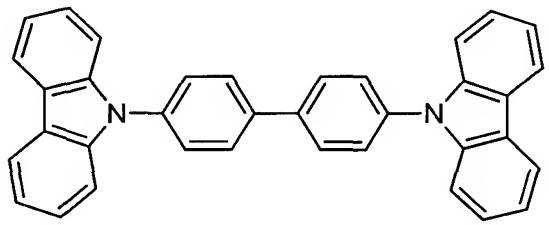
(1)

, Ar_1 to Ar_4 each represent a p-phenylene or m-phenylene (emphasis added). Further, the Office, at page 5 of the Official Action, acknowledges that Taguchi "does not explicitly disclose a compound of the instant formula (1) with a phenyl substitutent." Thus, Taguchi, including compounds HT-15 and -16, wherein Ar_2 and Ar_3 are ortho-substituted phenylenes, does not describe or suggest all of the features of present Claim 1 and the claims depending therefrom. Withdrawal of the obviousness rejection is requested on this basis alone.

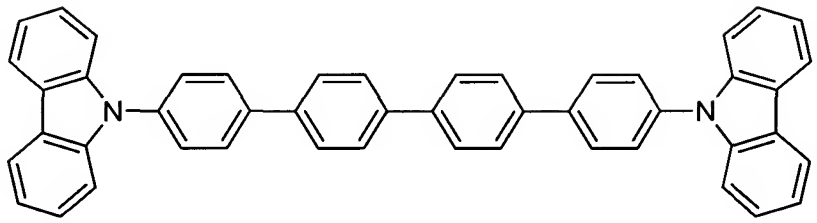
Additionally, Applicants traverse the obviousness rejection on the basis of superior and unexpected results. The compound of formula (1) of present Claim 1 is an asymmetric compound. Table 1, specification page 108, is reproduced below:

	Host material of light-emitting layer	Voltage (V)	Current density (mA/cm^2)	Luminance (cd/m^2)	Current efficiency (cd/A)	Chromaticity coordinate (x, y)	Half lifetime (hours)
Example 1	A-7'	5.8	0.23	101	43.2	(0.29, 0.64)	1126
Example 2	A-16'	5.6	0.25	99	39.7	(0.32, 0.61)	657
Example 3	B-3'	5.5	0.23	104	46.3	(0.32, 0.61)	1073
Example 4	B-28'	5.4	0.24	105	43.5	(0.29, 0.64)	912
Example 5	B-40'	5.5	0.23	101	44.7	(0.30, 0.64)	1086
Example 6	C-3'	5.8	0.26	100	38.9	(0.31, 0.61)	719
Comparative example 1	CBT	5.4	0.31	101	32.6	(0.32, 0.61)	305
Comparative example 2	CTP	6.1	0.78	104	13.4	(0.33, 0.61)	62

Comparative Examples 1 and 2 (not of the claimed inventive embodiments) employ CBT and CTP, the structures of which are reproduced (from specification pages 112 and 108) below:

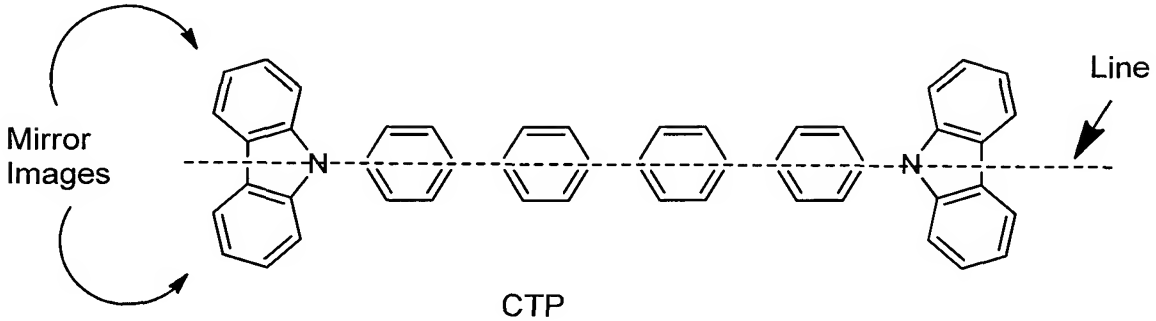


CBP



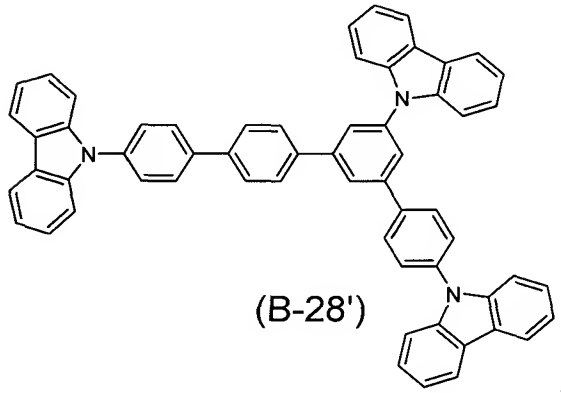
CTP

CBP and CTP are C2 symmetric molecules in that, if a line is drawn longitudinally through the center of these molecules to divide the molecules in half, each half of the molecule is a mirror image of the other half of the molecule, as shown below:



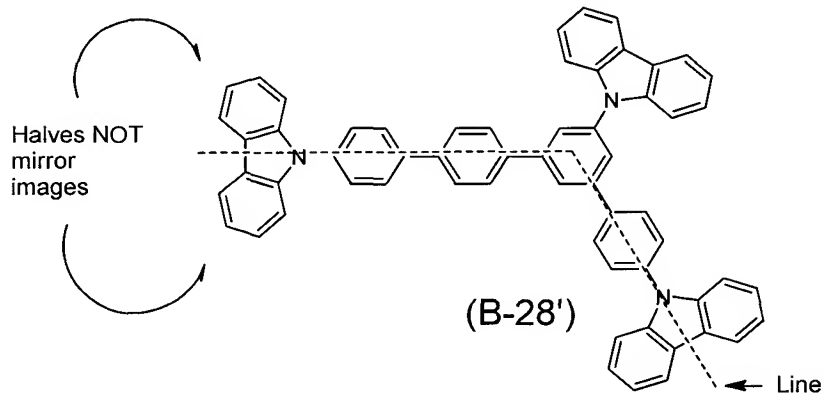
CTP

. In contrast, for example, compound B-28', employed in Example 4 (of the claimed inventive embodiments), is an asymmetric compound (see specification page 94):



(B-28')

For Example, a line drawn longitudinally through the center of the B-28' molecule does not result in each half of the molecule on either side of the line being the mirror image of the other half of the molecule.



As shown in the Table 1, *supra*, the half lifetimes and current efficiencies of an organic EL devices containing asymmetric compounds, as described above, for example, Example 4 (of the claimed inventive embodiments), are superior to the half lifetimes and current efficiencies of organic EL devices containing symmetric compounds, as described above, for example, Comparative Example 2. These superior results of increased current efficiencies and half lifetimes in organic EL devices, when employing asymmetric compounds, as described above, are not described or suggested by Taguchi. Accordingly, based on the disclosure of Taguchi, these superior results are unexpected results. Applicants submit these superior and unexpected results are exactly the types of secondary considerations envisioned by the M.P.E.P. to address a *prima facie* case of obviousness. Withdrawal of the obviousness rejection is requested on this basis alone.

5. The obviousness rejection of Claim 9 as being unpatentable in view of Hosokawa and Baldo (Office Action page 7) is traversed. Present Claim 9 depends, indirectly, from present Claim 1. As described *supra*, Hosokawa, including specific

compounds E14-16, does not describe or suggest a compound of formula (1) of Claim 1, and cannot therefore anticipate or render obvious present Claim 1 and the claims depending therefrom. Baldo, whom the Office relies upon to provide "a phosphorescent compound ($Ir(ppy)_3$) [that] can be doped into the light-emitting layer...." (see page 7, ¶ 9, of the Official Action), does not remedy the deficiencies of Hosokawa. Withdrawal of the obviousness rejection is requested.

6. The obviousness rejection of Claims 10 and 11 as being unpatentable in view of Taguchi and Hosokawa (Office Action page 8) is traversed. Claims 10-11 depend, indirectly, from present Claim 1. As described, *supra*, Taguchi, including compounds HT-15 and -16, wherein Ar_2 and Ar_3 are ortho-substituted phenylenes, does not describe or suggest all of the features of present Claim 1 and the claims depending therefrom. Additionally, as described *supra*, Taguchi does not describe or suggest the superior results of increased current efficiencies and half lifetimes in organic EL devices, when employing asymmetric compounds, as described in present Claim 1. Hosokawa, as described *supra*, does not remedy the deficiencies of Taguchi. Withdrawal of the obviousness rejection is requested.

Applicants submit the present application is now in condition for allowance. Early notification to this effect is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.
Richard L. Treanor

Charles J. Andres, Jr., Ph.D.
Registration No. 57,537

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 07/09)